



Dart Hawkesbury
1270 Aberdeen St
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Tel (613) 632-5200

D119-646-241
Job Sheet 165612



Part No: D119-646-241

Job Qty: 1 ea

Part Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 10/31/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG IIN-D119-646 REV D, D3887-045 REV E SHEETS 4, 6-11 IPP RevA: New issue DD verified by:EC IPP REV B 12.11.05 (DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:D 17.05.19 as per dwg D3887 rev.e DD verf:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		10/30/17	0.00	0.00	Start Up Skidtubes		
100	DC	1 pcs		10/30/17	0.00	0.00	DC		SEY
110	Skidtubes	1 pcs		10/31/17	0.77	0.00	Skidtubes		S.Y.
120	HandFinish	1 pcs		10/31/17	0.00	0.00	HandFinish1		2017-11-07 JSC
121	QC	1 pcs		10/31/17	0.00	0.00	QC7		SE
122	QC	1 pcs		10/31/17	0.00	0.00	QC5		SE
130	Skidtubes	1 pcs		10/31/17	0.00	0.00	Skidtubes		S.Y.
135	QC	1 pcs		10/31/17	0.00	0.00	QC5		
140	Skidtubes	1 pcs		10/31/17	0.00	0.00	Skidtubes		
150	QC	1 pcs		10/31/17	0.00	0.00	QC5		
160	Skidtubes	1 pcs		10/31/17	0.00	0.00	Skidtubes		
170	QC	1 pcs		10/31/17	0.00	0.00	QC5		
180	QC	1 pcs		10/31/17	0.00	0.00	QC10		
190	HandFinish	1 pcs		10/31/17	0.00	0.00	HandFinish2		
200	Powdercoat	1 pcs		10/31/17	0.00	0.00	Powdercoat1		
210	QC	1 pcs		10/31/17	0.00	0.00	QC3		
240	HandFinish	1 pcs		10/31/17	0.00	0.00	HandFinish4		
250	QC	1 pcs		10/31/17	0.00	0.00	QC5		
255	HandFinish	1 pcs		10/31/17	0.00	0.00	HandFinish3		
256	QC	1 pcs		10/31/17	0.00	0.00	QC5		
260	Packaging	1 pcs		10/31/17	0.00	0.00	Packaging3		
270	QC21-FG	1 Ea		10/31/17	0.00	0.00	QC21		

Part Op 100 - Photocopy bluefile & type labels per PPP D119-646-241 CHG005

Descriptions: 110 - 1- inspect Mat'L D2500-1-190 for damage 2-Cut tube to length as per dwg D3887 (154.8") 3- Ensure squareness of ends and scribe batch#

130 - 1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only. 2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes. 3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477 4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes*** 5- Deburr, blow out chips from inside of tube. 6- Bond web in place as per Dwg D3887 & QSI 015. A/R Sikaflex-291 132535 Sikaflex expire date: 18-04-21 Start: _____ Time: _____ Finish: _____ Time: _____ ***** (Adhere for 12 hours) *****

140 - 1- Bend FWD end of tube using bender 1 and bend prog. D3887. ***Must use bending aid DT9544, ensure proper positioning*** 2- Cut FWD end of tube as per dwg D3887. ***Verify measurement*** 3- Buff out marks left from bending 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208" 5- Open FWD saddle holes to finished size as

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only



Work Order: _____

Part No

Date

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Er
Eq
H
Interna
Tribal
Past

DART
AEROSPACE
S007319



AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

PART NO: D119-646-241

Revision: Start up Operation

Quantity: 1

Change No:

Mfg Date: 11/07/17
Job No: 165612

DISPOSITION

Scrap
Rework

AGAINST DEPARTMENT/PROCESS

Skid-tube
Machining
Thermofforming
Large Fab
Cross tube
Small Fab
Finishing
Composite
Water Jet
Prod. Eng. Coord.
Rec/Store/Packaging
Supplier

QTY Effective :

Disposition

MRB (QS1042) Approval

Engineering
Quality
Other

Completed By

Lead hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

FAULT CATEGORY

☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong
☐ Set-up	☐ Folio/Program	☐ Outside Dimensions
☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect
☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing
☐ Contamination	☐ Out of Sequence	☐ Part Moved
☐ Countersink	☐ Off-set	☐ Drawing
☐ Cut Too Short	☐ Mislabeled	☐ Finish
☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread
☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence

Misidentified

Past Due

OTHER :

per dwg D3887 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement) 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size. 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg. 9- C'sink FWD cap hole as per detail "C" 10- Countersink crossbolt spacer holes, and prepare tube for welding, deburr. 11- Deburr and blow out chips from inside of tube.

160 - NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDLING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/R Aluminum Rod

2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole. 3-Counterbore x-bolt spacer holes as per Dwg D3887 using DT10279. 4-Deburr and blow out chips from inside of tub 5- Pick D2855-5 cap and transfer drill missing hole. Deburr and identify cap with skidtube batch#.

170 - TEST FIT USING FIXTURE DT10091.

200 - *MASK AREA SHOWN ON SHEET 7, NOTE 9*** START TIME: _____ OVEN TEMPERATURE:**

FINISH TIME: _____

240 - 1-Install wearplates as per Dwg D3887. 2 -Inspect for foreign objects as per QSI 024 3 -Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 _____ Sikaflex expire date: _____ 4 -Install insert in D2855- Cap. Install cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291

Sikaflex expire date: _____

260 - Location : FG084

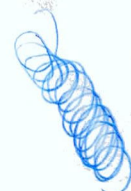
Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D2500-1-190 <i>8145247-71</i>	1	134	0	0
140-Skidtubes	D2579	2	56	0	0
	D3885-1 <i>5-00 3713</i>	1	34	0	0
160-Skidtubes	D3681-1	12	135	0	0
	D3903-1	12	157	0	0
240-HandFinish	ALS4-1032-225	1	887	0	0
	AN3C46A	8	134	0	0
	AN3C5A	2	454	0	0
	D2855-3	1	35	0	0
	D2855-5	1	133	0	0
	D3492-045	8	0	0	0
	D3672-1	2	1,773	0	0
	D3849-041	1	10	0	0
	D3849-043	1	4	0	0
	D3904-1	16	144	0	0
	MS21043-3	8	829	0	0
	MS24694-C52	2	184	0	0
	NAS1149C0332R	2	4,640	0	0

Part Specifications

Specifications could not be found.

Plex 10/31/17 8:59 AM dart.poulin.mario



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☒</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☒	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☒	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective : <u>1</u>			MRB (QSI042) Approval DAS 9 18-05-14																		
Description Work Order Deviation				Disposition				Completed By J.B. 18-05-14 Lead hand / Supervisor Approval Verification JTW 18-05-14 QC / QA Coordinator Approval DAS 9 18-05-14																	
operator error in manual mode kinked tube during training				SCRAP																					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	☒ Training	☒ Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :					
Misidentified ☐	Past Due ☐						

Work Order ID 165612

Monday, August 28, 2017 11:56:07 AM

165612

Page 1

Item ID: D119-646-241 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH
Start Date: 9/14/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 9/19/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: DAS Date: AUG 29 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 21 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***
9-89

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D3887-045

E

IIN-D119-646

D

100

Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-241 CHG005

110

0.00

110

Skidtubes

Memo

0.37

Skidtubes

1- inspect Mat'L D2500-1-190 for damage

2-Cut tube to length as per dwg D3887 (154.8")

3- Ensure squareness of ends and scribe batch#

Work Order ID 165612

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165612

Page 3

Item ID: D119-646-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/19/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

0.00

130

Skidtubes

0.49

Skidtubes

Memo

1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only.

2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477

4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes***

5- Deburr, blow out chips from inside of tube.

6- Bond web in place as per Dwg D3887 & QSI 015.

A/RSikaflex-291 _____

Sikaflex expire date: _____

Start: _____ Time: _____

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

Work Order ID 165612

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165612

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Item ID: D119-646-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/19/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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135

QC5- Inspect part completeness to step on W/O 0.00

135

QC

Memo

0.02

Quality Control

Work Order ID 165612***165612***

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Monday, August 28, 2017 11:56:07 AM

Item ID: D119-646-241**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop*****NS2*****Item Name:** AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH**Start Date:** 9/14/2017 **Start Qty:** 1.00***1*****Cust Item ID:****Required Date:** 9/19/2017 **Req'd Qty:** 1.00***1*****Customer:****Reference:****Approvals:****Process Plan:** _____**Date:** _____**Tooling:** _____**Date:** _____**Run Start*****NR1*****QC:** _____**Date:** _____**SPC (Y/N):** _____**Date:** _____**Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

140

0.00

140

1.01

Skidtubes

Memo

Skidtubes

1- Bend FWD end of tube using bender 1 and bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning***

2- Cut FWD end of tube as per dwg D3887.***Verify measurement***

3- Buff out marks left from bending

4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"

5- Open FWD saddle holes to finished size as per dwg D3887

6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement)

7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size.

8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.

9- C'sink FWD cap hole as per detail "C"

10- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

11- Deburr and blow out chips from inside of tube.

Work Order ID 165612

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Item ID: D119-646-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/19/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.02

Quality Control

Work Order ID 165612

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Page 7

Item ID: D119-646-241 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH
Start Date: 9/14/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 9/19/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160									
Skidtubes	Memo	1.02							
Skidtubes	NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091.								
	1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod_____								
	2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.								
	3-Counterbore x-bolt spacer holes as per Dwg D3887 using DT10279.								
	4-Deburr and blow out chips from inside of tub								
	5- Pick D2855-5 cap and transfer drill missing hole. Deburr and identify cap with skidtube batch#.								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo	0.36							
Quality Control	TEST FIT USING FIXTURE DT10091.								

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Item ID: D119-646-241

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 9/19/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

QC10- Inspect visual per QSI004- ground welds

0.00

180

QC

Memo

0.00

Quality Control

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.70

Hand Finishing

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

0.21

Powder Coating

MASK AREA SHOWN ON SHEET 7, NOTE 9

START TIME: _____

OVEN TEMPERATURE: _____

FINISH TIME: _____

Work Order ID 165612

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Item ID: D119-646-241**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH**Start Date:** 9/14/2017 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 9/19/2017 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210

QC3- Inspect Part Finish

0.00

210

QC

Memo

0.01

Quality Control

240

0.00

240

HandFinish

Memo

0.96

Hand Finishing

1-Install wearplates as per Dwg D3887.

2 -Inspect for foreign objects as per QSI 024

3 -Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive.

A/R Sikaflex-240/-291 _____

Sikaflex expire date: _____

4 -Install insert in D2855- Cap.

Install cap and seal with Sikaflex. Clean excess adhesive.

A/R Sikaflex-240/-291 _____

Sikaflex expire date: _____

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Item ID: D119-646-241**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH**Start Date:** 9/14/2017 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 9/19/2017 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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250	QC5- Inspect part completeness to step on W/O	0.00							
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250

QC

Memo

0.02

Quality Control

255	Wing Walk as per dwg QSI005 4.4 Batch _____	0.00							
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255

HandFinish

Memo

0.33

Hand Finishing

256	QC5- Inspect part completeness to step on W/O	0.00							
-----	---	------	--	--	--	--	--	--	--

256

QC

Memo

0.01

Quality Control

Monday, August 28, 2017 11:56:07 AM

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Quality Control

Picklist Print

Page 1

Monday, August 28, 2017 11:56:10 AM

Work Order ID: 165612

165612

Parent Item: D119-646-241

D119-646-241

Parent Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017

Required Date: 9/19/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC IPP REV B
12.11.05 (DEOD3887-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20
per chg003 ECN13-534 DD verf:JLM IPP REV:D 17.05.19 as per dwg
D3887 rev.e DD verf:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS4-1032-225	AELS8-1032-225	Purchased	No			240	Each	1,755.000	1	1			
ALS4-1032-225									**				
Rivnut													

Location	Loc Qty	Loc Code
FG	55	
M134975	20	
M135998	5	
M136579	30	
FP001	1408	
M135603	40	
M135920	38	
M135998	1319	
M136265	11	
ST556	292	
M136579	292	

D2855-5

Manufactured No

240

Each

8.0000

1

1

D2855-5

Cap

Location	Loc Qty	Loc Code
LG002	8	
162208	8	

D3492-045

Manufactured No

240

Each

0.0000

8

8

D3492-045

Plug Assembly

Picklist Print

Monday, August 28, 2017 11:56:10 AM

Work Order ID: 165612

165612

Parent Item: D119-646-241

D119-646-241

Parent Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017

Required Date: 9/19/2017

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

240

Each

4,362.000

2

2

NAS1149C0332R******

WASHER

LocationLoc QtyLoc Code

FP001

2660

m137851

1892

m138237

768

GA

448

m136444

448

ST260a

1000

m138207

1000

ST266

254

m137381

254

D2500-1-190

Manufactured

No

110

Each

90.0000

1

1

D2500-1-190******

Ext'n - 'I' Beam Tube 4"

LocationLoc QtyLoc Code

HALL

18

151612

18

LG002

72

159717

72

D2579

Manufactured

No

140

Each

98.0000

2

2

D2579******

Crossbolt Spacer

LocationLoc QtyLoc Code

LG001

98

141711

4

162087

94

Picklist Print

Page 3

Monday, August 28, 2017 11:56:10 AM

Work Order ID: 165612

165612

Parent Item: D119-646-241

D119-646-241

Parent Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017

Required Date: 9/19/2017

Start Qty: 1.00

Required Qty: 1.00

D2855-3 Manufactured No 240 Each 5.0000 1 1

D2855-3

Cap

Location

Loc Qty

Loc Code

FP001

5

151614

4

153291

1

D3672-1 Manufactured No 240 Each 1,836.000 2 2

D3672-1

Washer, Phenolic

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

1326

150074

326

164008

500

164412

500

ST047

500

163255

500

D3681-1 Manufactured No 160 Each 154.0000 12 12

D3681-1

Spacer

Location

Loc Qty

Loc Code

LG001

154

160402

91

163491

63

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Page 3

Picklist Print

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Page 4

Work Order ID: 165612

165612

Parent Item: D119-646-241

D119-646-241

Parent Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017

Required Date: 9/19/2017

Start Qty: 1.00

Required Qty: 1.00

D3849-041 Manufactured No 240 Each 4.0000 1 1

D3849-041

**

Run-On Landing Wearplate Fwd for Standard Skidtubes

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP002

4

163914

4

D3849-043 Manufactured No 240 Each 3.0000 1 1

D3849-043

**

Run-On Landing Wearplate Aft for Standard Skidtube

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP001

2

164340

2

FP002

1

150110

1

D3885-1 Manufactured No 140 Each 11.0000 1 1

D3885-1

**

Standard Web

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

LG002

11

156109

1

161481

10

D3903-1 Manufactured No 160 Each 149.0000 12 12

D3903-1

**

Spacer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

LG001

149

162344

76

162888

33

163905

40

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Shop Packet Print

Page 4

Picklist Print

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Page 5

Work Order ID: 165612

165612

Parent Item: D119-646-241

D119-646-241

Parent Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017

Required Date: 9/19/2017

Start Qty: 1.00

Required Qty: 1.00

D3904-1 Manufactured No 240 Each 127.0000 16 16

D3904-1

Washer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	27	_____
141452	7	_____
152159	20	_____
ST055	100	_____
163580	100	_____

AN3C5A Purchased No 240 Each 819.0000 2 2

AN3C5A

Bolt

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	5	_____
122800	5	_____
FP001	557	_____
M137361	61	_____
M137963	496	_____
OVER002	200	_____
M137710	200	_____
ST350	57	_____
M135442	57	_____

Picklist Print

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Work Order ID: 165612

165612

Parent Item: D119-646-241

D119-646-241

Parent Item Name: AW119 Replacement Skidtube with Heavy Duty Wearplates - Fits LH or RH

Start Date: 9/14/2017

Required Date: 9/19/2017

Start Qty: 1.00

Required Qty: 1.00

AN3C46A

Purchased

No

240

Each

365.0000

8

8

AN3C46A

Bolt

Location

Loc Qty

Loc Code

CCK007

124

m138009

124

FG

10

122843

10

ST346

231

m138009

231

MS21043-3

Purchased

No

240

Each

798.0000

8

8

MS21043-3

Nut

Location

Loc Qty

Loc Code

FG

80

103691

80

FP001

104

m136182

104

GA

45

m136182

45

ST302

569

m137587

69

m138040

500

MS24694-C52

Purchased

No

240

Each

128.0000

2

2

MS24694-C52

SCREW

Location

Loc Qty

Loc Code

FP001

28

m135978

28

ST285

100

m137951

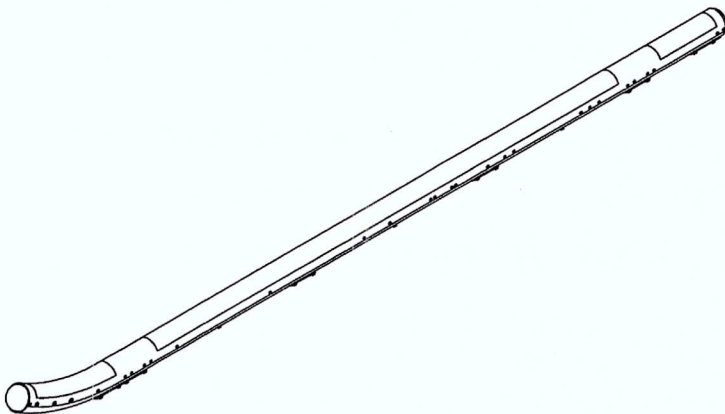
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Page 6

8 7 6 5 4 3 2 1



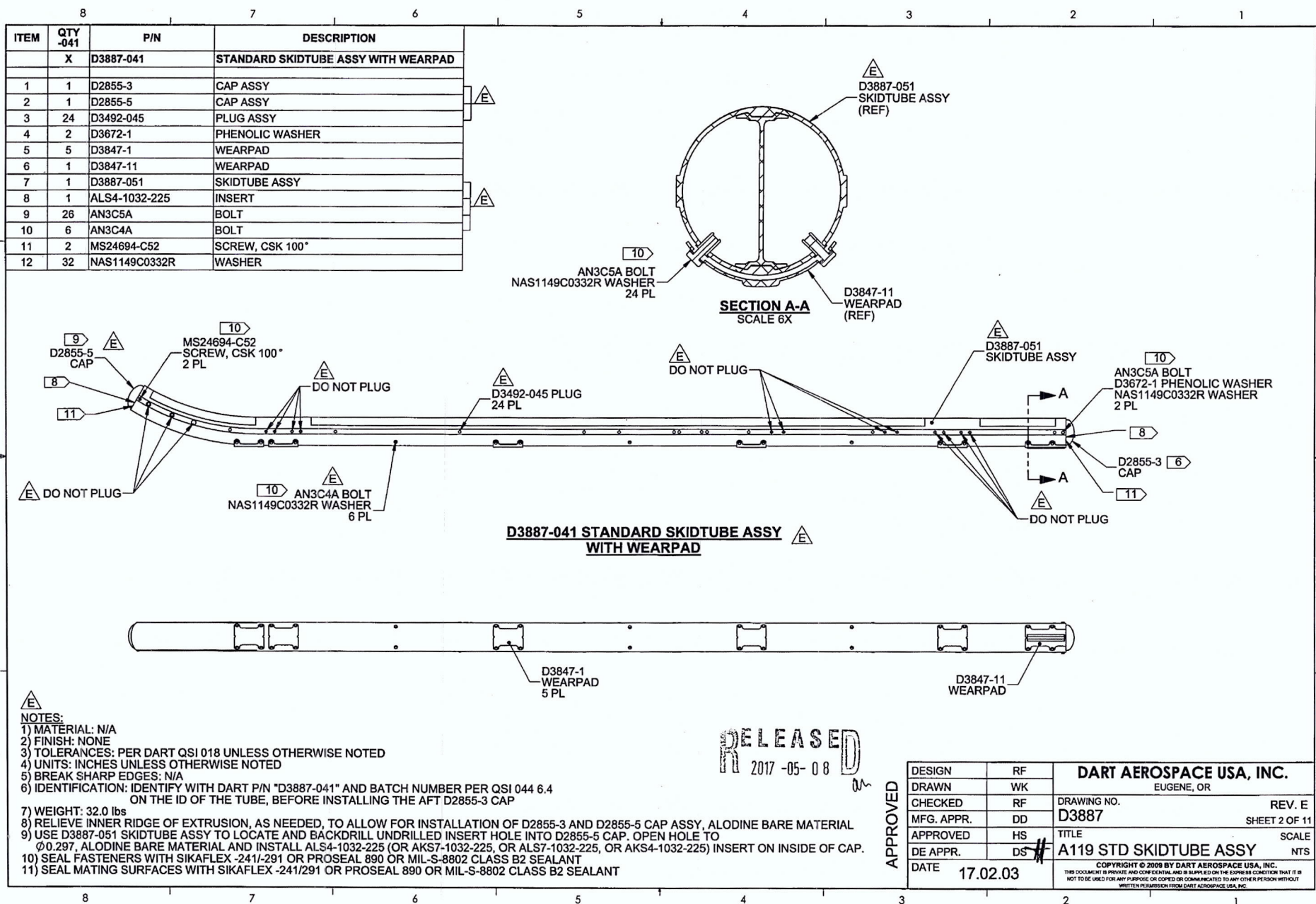
D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD(SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

SHOF COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

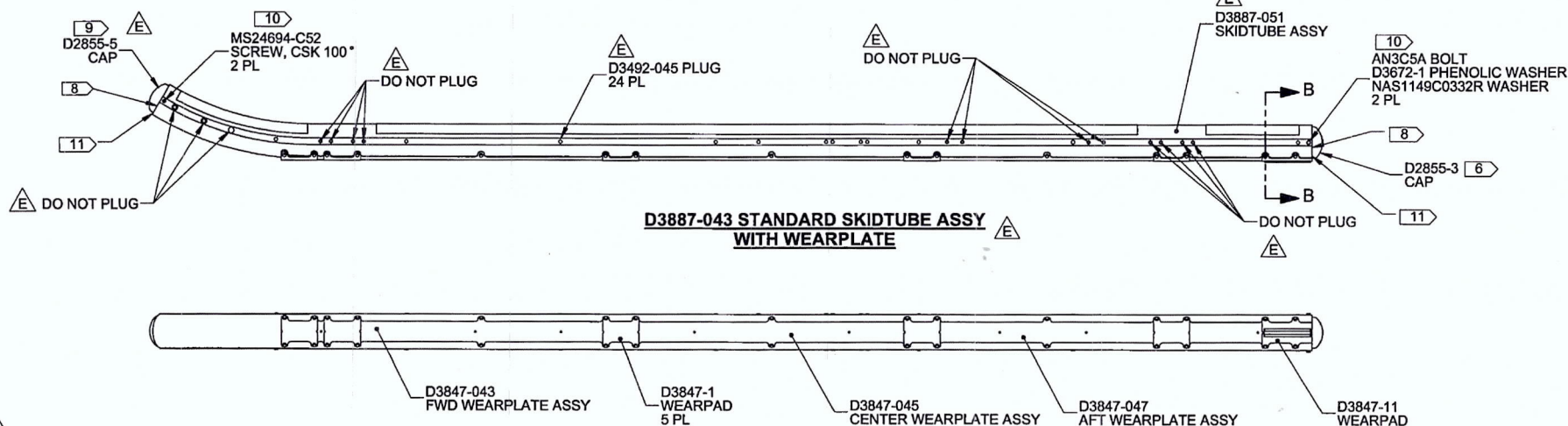
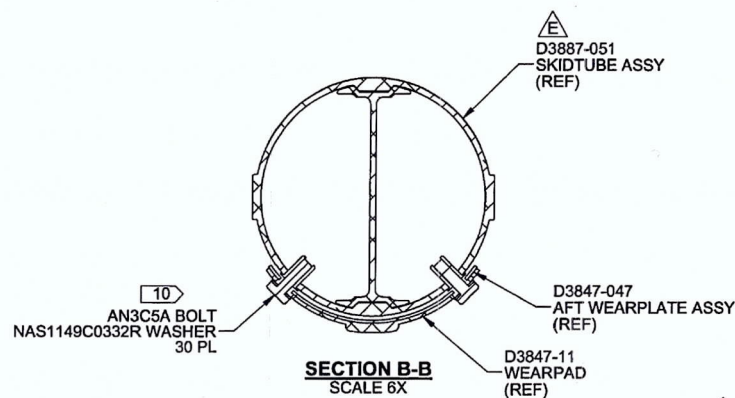
NO. 165612 MJS
1708-29

E	COMPLETE REDRAW, ADDED ASSY DETAILS -3, -051 & -053, SEE PREVIOUS REV. FOR DETAIL. POWDER COAT REMOVED FROM SADDLE AREA SEE DETAIL F. REF PAR15-421 ADDED STRUCTURAL PROVISIONS TO ALLOW FOR THE INSTALLATION OF THE D119-646-313/314 SKIDTUBE PROTECTOR KIT. REF PAR17-577 CHANGE QTY OF D2855-3, ADDED D2855-5 CAP ASSEMBLIES, ADDED INSTRUCTIONS TO LOCATE INSERT HOLE FOR D2855-5 CAP. REF PAR17-583	AJS / WK	17.02.03
D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 135.07 WAS 134.04 (ZN D5-8), ADD 5.07 (ZN C2-8), ADD 116.8 (ZN D5-8), DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT1, PL, ZN C2-2, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24694-C52 WAS AN3C5A, 2 PLCS, (ZN C1-5, C1-6, B4-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.214 THRU, ADDED DETAIL F (ZN C8-5, C8-6, B8-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN D4-1, A6-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A8-1); ADD 134.04 (ZN C4-8); D2855-3 WAS D2575 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C6-2, C2-2, C6-3, C2-3, C6-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE N (ZN B3-7)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	WK		
CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 1 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	A119 STD SKIDTUBE ASSY	NTS
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RELEASED
2017-05-08
CEN 17-519



ITEM	QTY -043	P/N	DESCRIPTION
	X	D3887-043	STANDARD SKIDTUBE ASSY WITH WEARPLATE
1	1	D2855-3	CAP ASSY
2	1	D2855-5	CAP ASSY
3	24	D3492-045	PLUG ASSY
4	2	D3672-1	PHENOLIC WASHER
5	1	D3847-043	FWD WEARPLATE ASSY
6	1	D3847-045	CENTER WEARPLATE ASSY
7	1	D3847-047	AFT WEARPLATE ASSY
8	5	D3847-1	WEARPAD
9	1	D3847-11	WEARPAD
10	1	D3887-051	SKIDTUBE ASSY
11	1	ALS4-1032-225	INSERT
12	32	AN3C5A	BOLT
13	2	MS24694-C52	SCREW, CSK 100°
14	32	NAS1149C0332R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3887-043" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 37.0 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3887-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP. OPEN HOLE TO Ø0.297, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

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2017-05-08

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MFG. APPR.	DD	D3887	SHEET 3 OF 11
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D

C

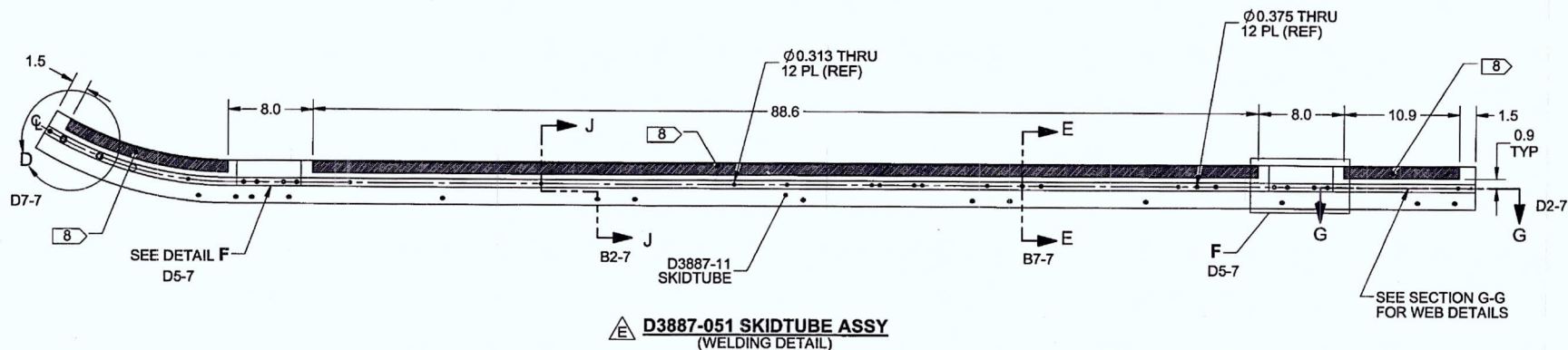


8



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ITEM	QTY	P/N	DESCRIPTION
	X	D3887-051	SKIDTUBE ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3681-1	CROSS BOLT SPACER
3	1	D3885-1	STANDARD WEB
4	1	D3887-11	SKIDTUBE
5	12	D3903-1	CROSS BOLT SPACER
6	30	ALS4-1032-130	INSERT



D3887-051 SKIDTUBE ASSY
(WELDING DETAIL)

NOTES:

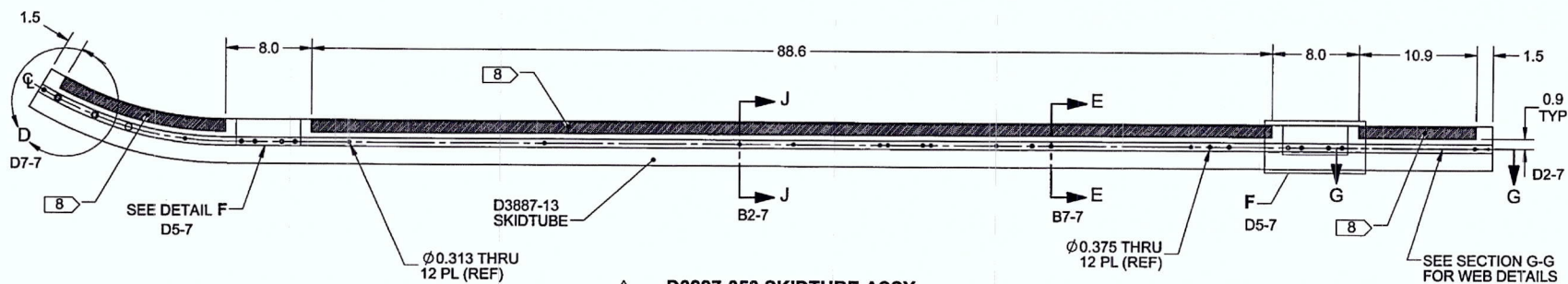
- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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2017-05-08

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ITEM	QTY -053	P/N	DESCRIPTION
	X	D3887-053	SKIDTUBE ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3681-1	CROSS BOLT SPACER
3	1	D3885-1	STANDARD WEB
4	1	D3887-13	SKIDTUBE
5	12	D3903-1	CROSS BOLT SPACER



D3887-053 SKIDTUBE ASSY
(WELDING DETAIL)

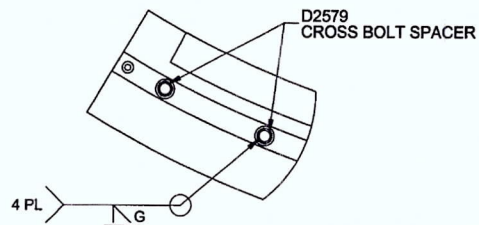
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50 ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

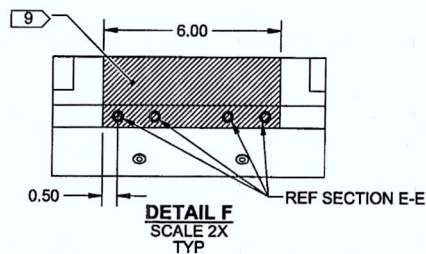
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2017-05-08

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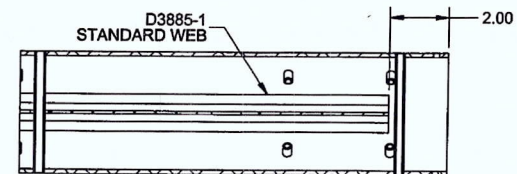
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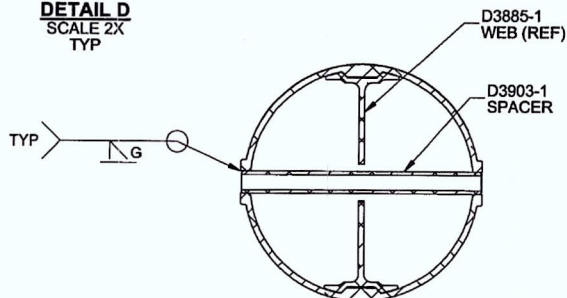
DETAIL D
SCALE 2X
TYP



DETAIL F
SCALE 2X
TYP

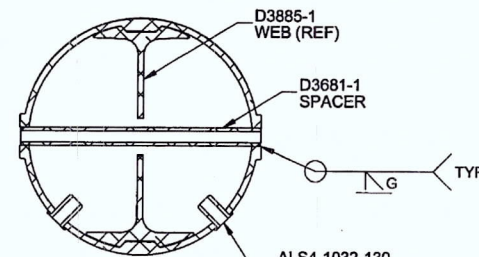


SECTION G-G
SCALE 2X
TYP



SECTION E-E
SCALE 5X
TYP

(FOR 12X $\phi 0.375$ HOLES
PER SKIDTUBE)



SECTION J-J
SCALE 5X
TYP

(FOR 12X $\phi 0.313$ HOLES
PER SKIDTUBE)

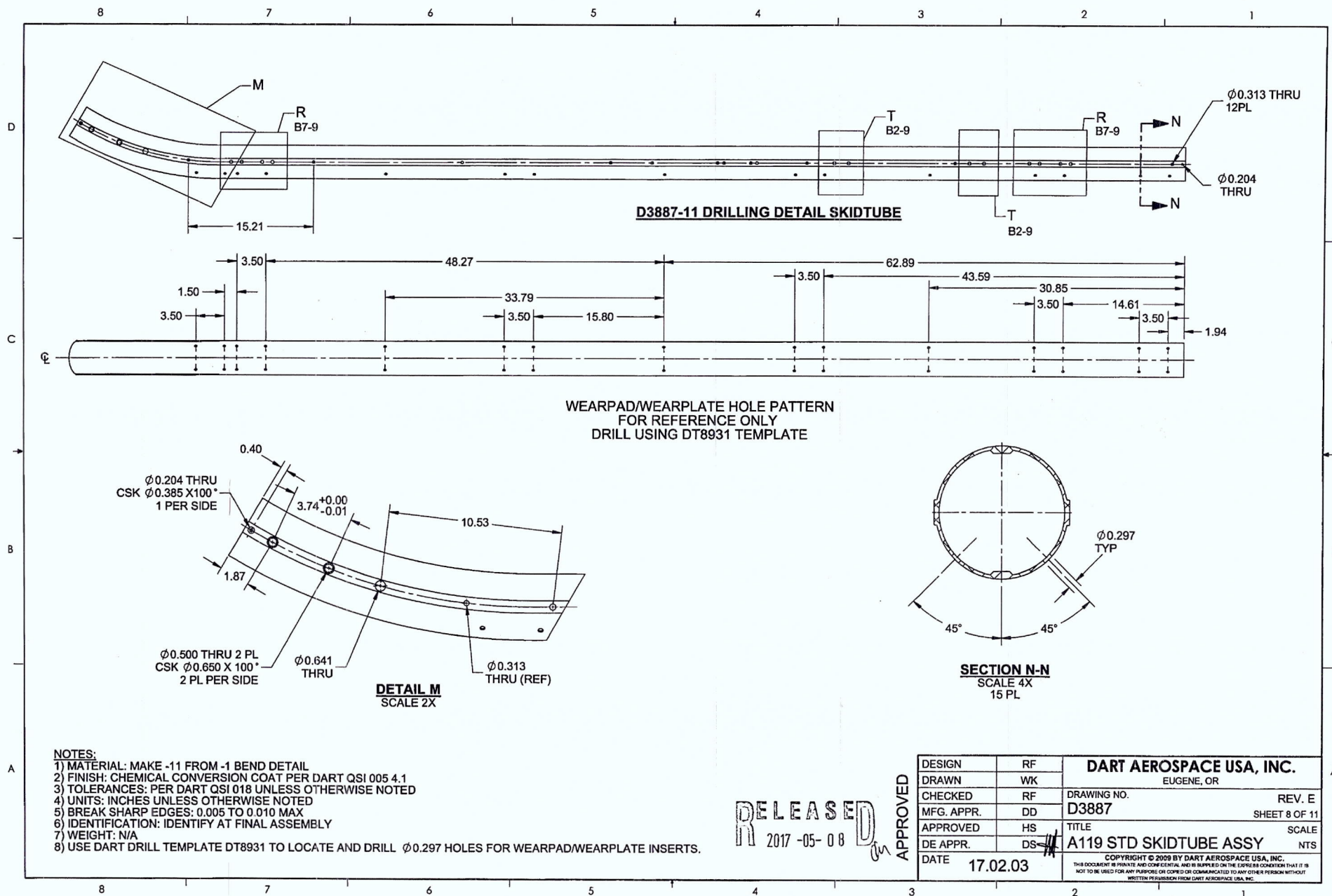
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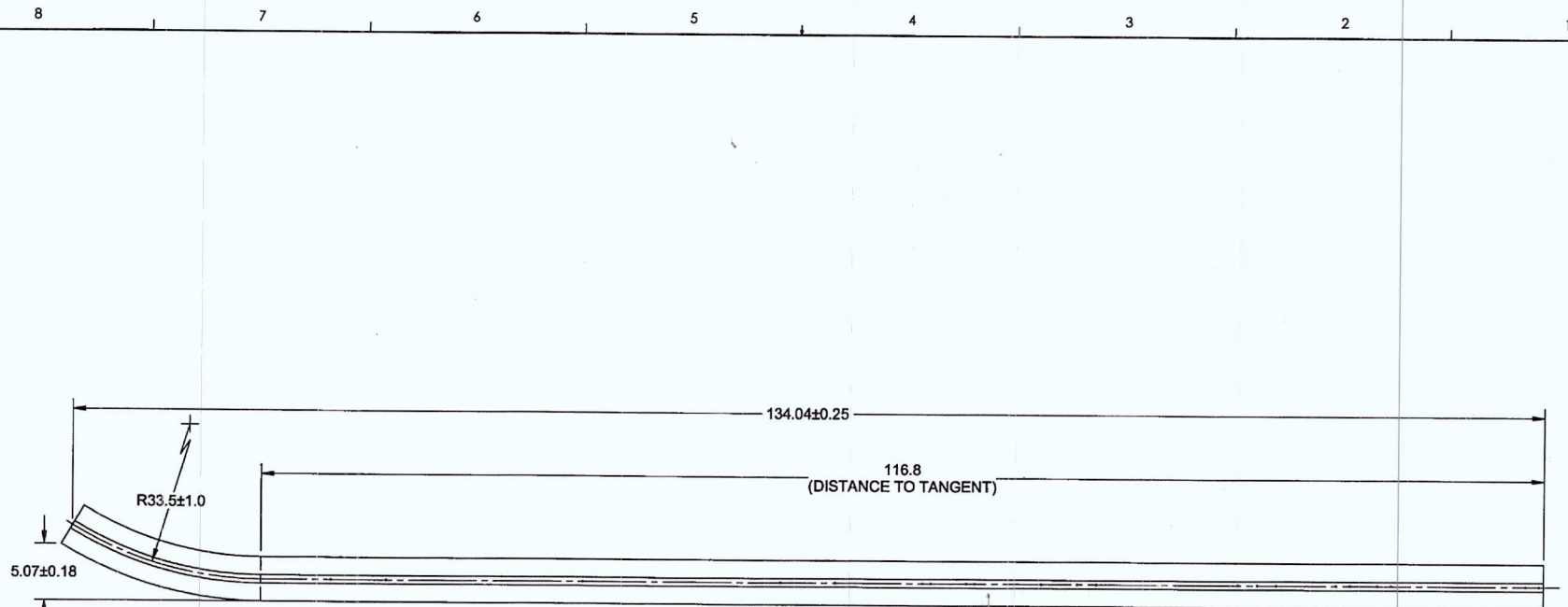
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING. ENSURE HOLES LINE-UP
- 9) MASK THIS AREA AND DO NOT POWDER COAT
- 10) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION E-E $\phi 0.375$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.475 \times 45^\circ$
 - ii) INSERT D3903-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) C'BORE TO $\phi 0.313 \times 0.75$ DEEP
 - v) DEBURR HOLES
- 11) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION J-J $\phi 0.313$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.354 \times 45^\circ$ OR 0.050 DEEP $\times 45^\circ$ (BOTH SIDES)
 - ii) INSERT D3681-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) DEBURR HOLES
- 12) WELD PER DART QSI 004

RELEASED
2017-05-08

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CHECKED	RF	DRAWING NO.	REV. E
MFG. APPR.	DD	D3887	SHEET 7 OF 11
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D3887-1 BEND DETAIL SKIDTUBE

NOTES:

- 1) MATERIAL: MAKE -1 BEND DETAIL FROM -3 PILOT HOLE DETAIL
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

RELEASED
2017-05-08

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DRAWN	WK	EUGENE, OR	
CHECKED	RF	DRAWING NO.	REV. E
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